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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,501	12/07/2000	Raul Rico	00P9039US	1258
7590 04/16/2004			EXAMINER	
Siemens Corporation Intellectual Property Department 186 Wood Avenue South Iselin, NJ 08830			MULLINS, BURTON S	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/731,501

Applicant(s)

RICO ET AL.

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-7,9-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-20 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,9-14 and 17 is/are rejected.
- 7) ☒ Claim(s) 3,7 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 5-6, 9, 11-12, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Debleser (U. S. Pat. 6,265,805 B1) in view of Nair (US 4,367,413).

Referring to claim 1, Debleser discloses a method for tuning the torsional natural frequency of a synchronous electrical machine rotor (refer to the symmetry shown in Fig.3 comprising the step of: forming within winding slots 15 defined by radially projecting winding teeth 26 at least one tuning slot comprising cooling channel 27 (Fig.2) that extends radially inwardly from the bottom of the winding slot a distance (Figs.2-3). While the cooling channel is not described as a "tuning slot...to tune the rotor to a desired torsional natural frequency," the cooling channel inherently performs this function since it has the identical structure. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Debleser does not teach a turbine generator, per se.

Nair teaches a combined turbine and generator comprising a synchronous generator driven by a turbine to convert power from flowing liquid such as water to rotational energy (c.1, lines 55-58).

It would have been obvious to one having ordinary skill in the art to provide Debleser's "synchronous electrical machine" with a turbine generator per Nair since the turbine would have been desirable to convert power from a flowing liquid to rotational energy.

Regarding claim 11, note that the at least one tuning slot 27 in Debleser is positioned at a location that minimizes impact to the electromagnetic characteristics of the rotor cross-section (by providing a symmetric location to the slots 27, as seen in Fig.3).

Regarding claim 5, Debleser discloses a method for tuning the torsional natural frequency of a rotor having opposing poles and a quadrature axis, comprising the step of forming within the winding slots 15 defined by radially projecting winding teeth 26 that are positioned substantially at the quadrature axis, at least one tuning slot comprising cooling slot 27 that extends radially inwardly from the bottom of the winding slot 15 a distance (Figs.2-3). Since the structure of Debleser is identical to applicant's structure, the cooling slots inherently perform the function of tuning the rotor to a desired torsional natural frequency and thus anticipate claim.

Regarding claim 6, Debleser's at least one tuning slot 27 has a width smaller than the width of any winding wire 11 received within the winding slot 15 to prevent winding wire from passing into the tuning slot 27 (Fig.2).

Regarding claim 9, Debleser's rotor shaft 1, a cylindrically configured rotor body (Fig.3) is formed as pad of the shaft 1 and having a plurality of radially projecting winding teeth 26 that define winding slots 15 for receiving winding wire 11 therein, the winding slots 15 having a bottom portion spaced radially inward, and at least one first winding slot 15 having a tuning slot or cooling slot 27 that extends radially inward from the bottom thereof a distance that tunes the rotor to a desired torsional natural frequency, and at least one second winding slot 39 being devoid of a tuning slot.

Regarding claim 14, note Debleser's rotor shaft 1; a cylindrically configured rotor body formed as part of the shaft 1 and having a plurality of radially projecting winding teeth 26 defining winding slots 15 for receiving winding 11 wire therein, the rotor body having two or more poles and a quadrature axis, the winding slots 15 having a bottom spaced radially inward, and at least one tuning slot 27 positioned at the quadrature axis and extending radially inward from the bottom of the winding slot 15 a distance that tunes the rotor to a desired torsional natural frequency. The tuning slot is smaller than the winding slot 15.

Regarding claim 17, note plural tuning slots 16 positioned substantially at the quadrature axis.

*Allowable Subject Matter*

3. Claims 18-20 are allowed. Debleser does not teach that fewer than all of the winding slots incorporate a tuning slot since it appears that all of Debleser's winding slots incorporate a tuning slot (Fig.3). Kobayashi discloses a DC motor rotor, not a generator rotor.

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4. Claims 3, 7 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Debleser does not teach or suggest that the number of tuning slots is substantially fewer than the number of winding slots.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 5, 9 and 14 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
April 12, 2004